



Original Research Article

Associated factors of postpartum depression in women attending a hospital in Pokhara metropolitan, Nepal



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ABSTRACT

Introduction: Depression in the postnatal period women is one of the major psychological disorders among reproductive - age women. It is associated with undesirable consequences for mothers as well as their children. Throughout the world, the reported prevalence of postpartum depression ranges from 3.5% to 33%, depending on type, severity and time since delivery. This study assessed the depression in postnatal period women and its associated factors attending a hospital of Pokhara Metropolitan, Nepal.

Materials and Methods: A hospital-based cross-sectional study was conducted among postpartum mothers of Pokhara Metropolitan. A quantitative survey method was adapted for collecting the required information. A face-to-face interview was conducted among 172 postpartum women using a structured interview schedule and Edinburg Postpartum Depression Scale (EDPS). We applied descriptive statistics for assessing the demographic, socio-economic and various pregnancy and delivery-related factors of the postnatal women as number and percentage. We used a chi-square test to find out the association of depression with demographic, socioeconomic and health service-related factors of postnatal women.

Results: Overall 12% of women were suffered from the depression in the postnatal period using EPDS at the cutoff value ≥ 13 . The age of the participants ranged from 17 to 38 years and the median age was 24 years. Nearly two-thirds participants (63.4%) were married at an early age (<20 years). All participants included in this study were within seven days of their postpartum period. Amongst various household wealth indexes, pregnancy-related problems/complications were found to be associated with PPD.

Conclusion: The study revealed that nearly one-fifth of women were suffering from depression in their postpartum period. For dealing with the problem, there should give importance to women's education, empowerment, and family care and support during pregnancy and the postpartum period.

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1. Introduction

Pregnancy and childbirth may cause natural neuroendocrine and psychosocial stress which most women pass by serious emotional distress in the antenatal, natal and postnatal period.¹ Postpartum depression is a term refers to a group of depressive disorders specific to the postpartum period. It starts in the postnatal period and normally recovers after three to fourteen months of the childbirth.²

Worldwide prevalence of postpartum depression range d from 3.5% to 33%, depending on the type, severity and time since delivery.² It also varied from 19% to 22% in India.³ and 4.9% to 30% in Nepal.^{4,5}

The common associated factors of depression in postnatal women were the history of psychological disturbances during pregnancy, poor spousal relationship and low family and social support, and stressful life. However, low socio-economic status had a significant predictive relation with postpartum depression.⁶

Most frequent signs and symptoms of depression in postpartum women were fear, arousing liability, and feeling of fault, anorexia, suicide, low concentration/memory, fatigue, and bad temper. The early diagnosis of the postpartum depression could support to manage and reduce its further complications.⁷ This study assess ed the status of depression in postpartum women and its associated factors attending a hospital of Pokhara, Nepal.

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2. Materials and Methods

A hospital-based cross-sectional study was conducted among postpartum mothers of Pokhara Metropolitan. We used a consecutive survey method to collect the required information using an interview schedule and the Edinburgh Postnatal Depression Scale (EPDS).⁸ The scale was translated in the Nepali language and further validated which has Cronbach's alpha value 0.74, sensitivity 92% and specificity 95.6% was used to measure the status of PPD.^{9,10} Edinburgh Postnatal Depression Scale is a 10 item depression scale which was designed by Cox et al. in 1987 in England to identify postpartum depression among women after childbirth. With the development of EPDS, it has been validated and used in many countries.^{8,10}

A structured interview schedule with closed-ended questions was used to assess the different variables under the study. Face-to-face interviewed 172 postpartum women using a structured interview schedule.

All the questions were translated into Nepali language and back-translated into the English language to maintain translation validity. The questionnaire translated into the Nepali language was pretested among 10% of the total sample, i.e., 17 (n=172) postpartum women in Sisuwa Hospital of Pokhara Metropolitan. The collected data were entered in Epidata version 3.1, which was then exported to SPSS version 20 for further analysis.

We computed descriptive statistics for demographic, socio-economic and various pregnancy and delivery-related factors of the respondents as number and percentage. We applied a chi-square test to assess the association of PPD with demographic, socioeconomic and maternal health-related factors.

The research proposal was reviewed and approved by the Institutional Review Committee of Pokhara University, Nepal. We took permission from the hospital before conducting the research. We assured informed consent from the respondent before their participation. We used the EPDS tool after receiving written permission from the author. We maintained anonymity for assuring the confidentiality and privacy of the participants. We requested all participants for voluntary participation and allowed to terminate from the study at any time during the study. At the end of data collection, we provided education and suggestion for each participant for further care as necessary. We suggested women for counseling who were diagnosed as depressed.

3. Results

The age of the participants ranged from 17 to 38 years with a median age of 24 years. Nearly two-thirds participants (63.4%) were married at an early age (<20 years and age group 20-35 years (65.7%). More than half of the participants (57.0%) and their husbands (59.0%) had completed secondary level of education. More than half

of the women (53.4%) were house-makers and more than one-fourth (28.5%) their husbands were engaged in overseas employment. More than one-fourth participants (27.9%) belonged to the medium wealth class.

Eighty-nine percent of the postpartum women had two or less than two children and half of the participants (50.0%) had a male child in their recent pregnancy. All participants (100.0%) of the study were within seven days of postpartum periods. The proportion of women having planned pregnancy was 89.5% and almost (97.1%) of women had received some kind of support from their husband and family during the antenatal and postnatal period. A major proportion (69.8%) of the sample did not have any pregnancy-related problems/complications. But a major proportion of 61.6 of women had delivery related problems/complications where 25.5% had prolonged labor pain. A few women (2.9%) had preterm delivery. Out of the cesarean section (59.9%), more than half women (51.7%) sought emergency caesarian-section.

Out of 172 participants, 23 (12%) were suffered from postpartum depression by EPDS cutoff value ≥ 13 . Amongst various demographic and socioeconomic factors, household wealth index ($\chi^2 = 13.003$, $df=3$, $p<0.05$) was found statistically significant. Similarly, amongst health delivery-related factors, pregnancy-related problems ($\chi^2 = 8.7$, $df= 1$, $p<0.05$) had a significant association with PPD.

4. Discussion

The overall prevalence of depression in postnatal women was found to be 12% and household wealth index and pregnancy-related problems/complications were found to be significantly associated factors of PPD. It is consistent with the prevalence as shown by a study conducted among women attending public health clinics of South India, i.e. 11.3%.¹¹ A review study with 143 cited study reporting prevalence in 40 countries showed the prevalence was considered to be ranging from 10-15%.¹²

In this study, the participant's age at pregnancy was not found to be associated with the occurrence of depression in post-natal mothers. Contradictory with this finding, a study among prim-parous United States mother's shows adolescent mothers had experienced high rates of depressive symptoms relative to adult mothers.¹³

This study showed no significant association between participant's educational and employment status and postpartum depression. Supporting this result, a systematic review done among women in the Arab world showed no association between education and employment to cause depression among postpartum mothers.¹⁴

This study showed that the husband's education status was not significantly associated with PPD. Contradictory with this finding, a study conducted among Arabian women living in southern Israel showed the low educational level

Table 1: Association of Socio-demographic characteristics with PPD

Characteristics	Postpartum depression		Total	χ^2	df	p-value
	Present n (%)	Absent n (%)				
The current age of the participants						
<20 years	7(15.2)	39(84.8)	46	2.626	2	0.269
20-35 years	109(87.9)	15(12.1)	124			
≥36 years	1(50.0)	1(50.0)	2			
Participant's education						
≤10 years of schooling	10(11.4)	78(88.6)	88	0.627	1	0.504
>10 years of schooling	13(15.5)	71(84.5)	84			
Participant's occupation						
House-maker /Others	11(15.1)	62(84.9)	73	0.315	1	0.653
Remaining workers	12(6.2)	87(93.8)	99			
Household wealth index						
Below 25=Poor	12(27.3)	32(72.7)	44	13.003	3	0.005 *
25-50=Medium	1(2.1)	47(97.9)	48			
50-75=Rich	4(10.3)	35(89.7)	39			
75-100=Very rich	6(14.6)	35(85.4)	41			

*p-value significant at $\alpha < 0.05$ **Table 2:** Association of pregnancy and delivery related characteristics with PPD

Characteristics	Postpartum depression		Total	χ^2	df	p-value
	Present n(%)	Absent n(%)				
Age at last pregnancy						
Age <20 and >35 years	8(17.0)	39(83.0)	47	0.743	1	0.452
Age 20-35 years	15(12.0)	110(88.0)	125			
Parity						
2 or less than 2	19(12.4)	134(87.6)	153	1.008	1	0.290
More than 2	4(21.1)	15(78.9)	19			
Sex of recent child						
Male	15(17.4)	71(82.6)	86	2.459	1	0.178
Female	8(9.3)	78(90.7)	86			
Intent of pregnancy						
Intended	21(13.6)	133(86.4)	154	0.089	1	1.000
Unintended	2(11.1)	16(88.9)	18			
Pregnancy- related problems						
Yes	13(25.0)	39(75.0)	52	8.700	1	0.006*
No	10(8.3)	110(91.7)	120			
Type of delivery						
Normal vaginal	9(13.0)	60(87.0)	69	0.011	1	1.000
Caesarean section	14(13.6)	89(86.4)	103			
Type of C-section						
Planned	1(100.0)	13(0.0)	14	0.574	1	0.686
Emergency	76(85.4)	13(14.6)	89			

*p-value significant at $\alpha < 0.05$

of husband causes depression in postpartum mothers.¹⁵ similarly, the low educational level of the husband was a cause of depression in postpartum mothers in Turkey.¹⁶

The finding of this study reveals that there was no significant association between husband's occupation and wife's postpartum depression. On the other hand, a study conducted in Turkey showed that husband's unemployment causes depression among postpartum mothers.¹⁶ this variation may have occurred because, in this study, most

husbands were engaged in some kind of employment activities.

Our study shows that the household wealth index ($\chi^2 = 13.003$, $df=3$, $p=0.005$) was significantly associated with postpartum depression. In Vietnam, poverty causes depression in postpartum women.¹⁷ similarly, in the Arabian countries, women's financial stress found to be associated with the depression of postpartum women.¹⁴

This study did not reveal the significant association of parity with the occurrence of depression in postpartum mothers. Similarly, a study conducted in Japan showed no significant association between parity and PPD.¹⁸

There was no significant association between the sex of the newborn and the occurrence of postpartum depression Pokhara Metropolitan. A similar result was found in Asian Indian women living in the United States showed no significant association between sex of child and PPD.¹⁹ Similarly a study conducted in Vietnam also showed that the sex of newborn did not cause of depression among postpartum mothers.¹⁶

This study showed that pregnancy-related problems/complications were significantly associated with postpartum depression. Contradictory with this finding, in Denmark pregnancy or delivery complications were found to be associated with postpartum depression.²⁰

The type of delivery conduct was not found significantly associated with depression postnatal mothers. Correspondingly, the type of delivery was not found to be associated with the occurrence of postpartum depression among women in Turkey.²¹ and Brazil.²² However, In Nepal, a hospital-based study revealed that vaginal delivery was found as a risk factor of postpartum depression.²³

Primary data were collected using the validated EPDS scale in the hospital setting of Pokhara Metropolitan through the active involvement of the researcher herself in data collection. However, we involved a minimum required sample size. Hence, the results could not be generalized. We applied a cross-sectional descriptive design, so, the results might not be sufficient to establish the causal association of associated factors with PPD among women. Further analytical and interventional studies need to be conducted for this purpose.

5. Conclusion

Nearly one-fifth postnatal women were suffering from postpartum depression within the seven-day of the postpartum period. Wealth index and pregnancy-related problems/complications were found to be significantly associated with the development of depression in postnatal mothers. It is considered as a public health concern affecting pregnant and postpartum mothers worldwide. Limited published literature has been found in this aspect of maternal health in underdeveloped countries like Nepal. Further attention is to be given to this issue to gain a better understanding of postpartum depression. This article will provide baseline information for conducting further research in similar settings and aspects.

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7. Conflicts of interest

The authors declare no conflicts of interest

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